

Balcones Canyonlands Preserves Water Quality Protection Lands Programs Successes and The Future

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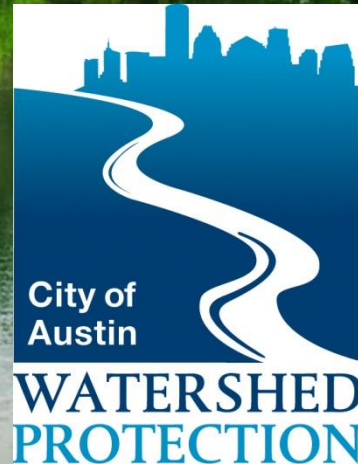
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Introduction

- Tale of 2 Programs
 - Balcones Canyonlands Preserve:
regulatory driven with a community solution but benefits are broad (wildlife, water quality, economics, quality of life)
 - Water Quality Protection Lands:
community driven and voter approved also with broad regional benefits
- These programs have different goals than parks and are managed differently with controlled access

What is the Balcones Canyonlands Preserve?

A 30,540-acre system of preserves established to protect 8 endangered species and 27 species of concern, and to mitigate for loss of their habitat in western Travis County.







The Balcones Canyonlands Preserve (BCP) is the culmination of the Balcones Canyonlands Conservation Plan (BCCP)

BCCP is first in the nation multi-species Habitat Conservation Plan, under Section 10(a) of the Endangered Species Act; a national model

U.S. Fish and Wildlife Service issued a permit for the plan in 1996

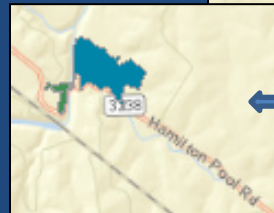


BCCP Partners

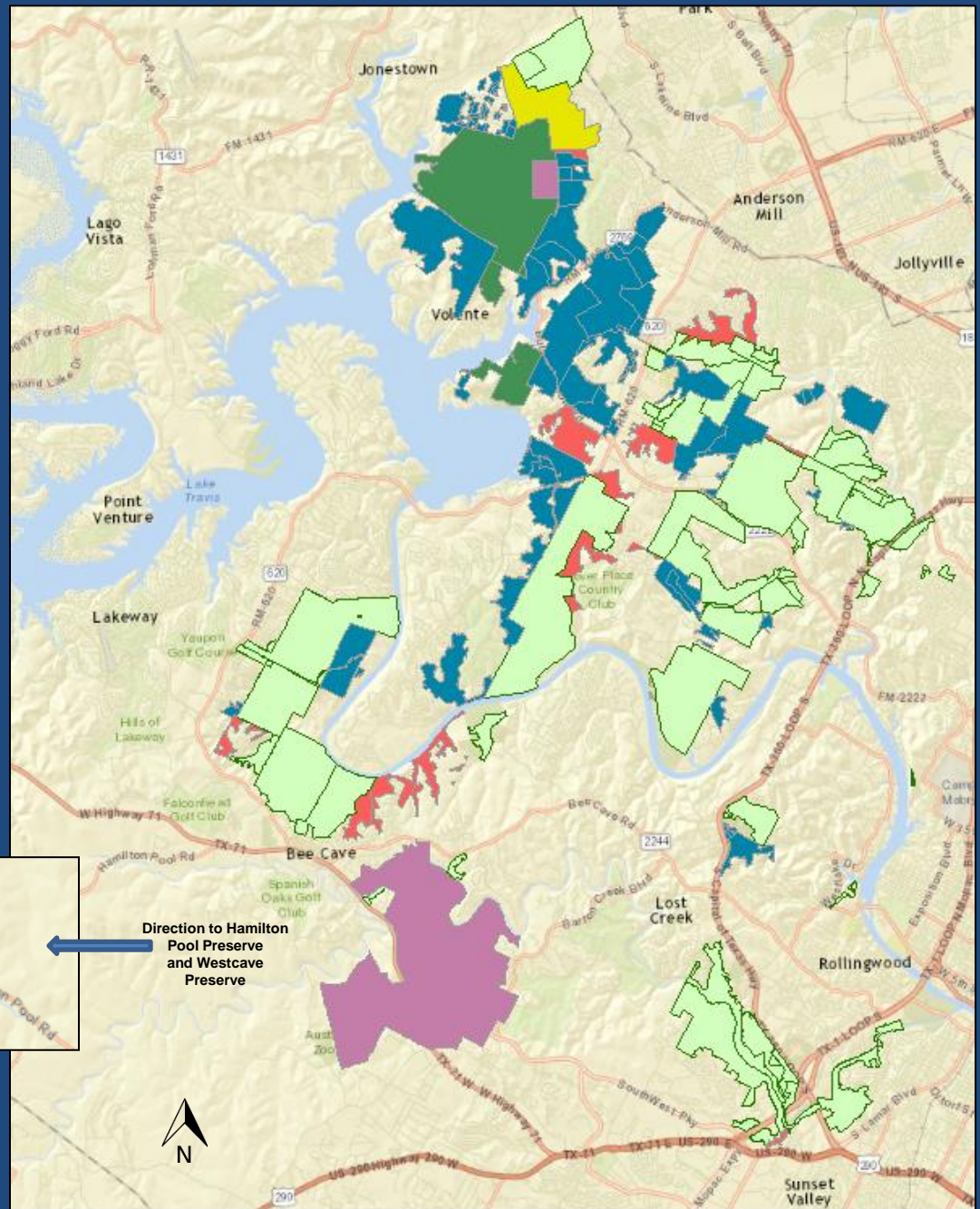
	City of Austin BCP
	LCRA BCP
	Private Land Management BCP
	The Nature Conservancy BCP
	Travis Audubon Society BCP
	Travis County BCP

Public Lands of the BCP:

- Barton Creek Greenbelt & Wilderness
- Wild Basin
- Emma Long (City) Park
- St. Edwards Park
- Bull Creek Greenbelt
- Commons Ford Park
- Hamilton Pool



Direction to Hamilton
Pool Preserve
and Westcave
Preserve



BCCP Permit Requirements

Acquire and manage a minimum of 30,428 acres of habitat for two endangered songbirds

Protect 62 karst features (caves)

Protect populations of two rare plants wherever they occur on the BCP

Monitor and manage these habitats in perpetuity



Species covered by the BCCP

- Endangered Species
 - Golden-cheeked warbler
 - Black-capped Vireo
 - Six karst (cave) invertebrates
- Species of Concern
 - 25 karst species
 - 2 plant species



The BCP protects some of the best and largest tracts of habitat in the heart of the warblers' breeding range

Because Travis County is so critical to this species' survival, most of the BCP acreage is Golden-cheeked Warbler habitat.



Provides Travis County, City of Austin, and other landowners with a streamlined approach to Endangered Species Act compliance



“Take” of Habitat Allowed Under BCCP Permit in Travis County

Golden-cheeked Warbler habitat – 71%
Black-capped Vireo habitat – 50%
Karst habitat – 84%

***The Balcones Canyonlands Preserve
is the mitigation for that “take”.***

GCWA Population Viability Study

- 5-year study (2011-2015) with U.S. Forest Service and BCP partners
- Addressing 3 key questions:
 - How many GCWAs are there on the BCP?
 - How are they doing?
 - What management strategies can best promote recovery of the GCWAs and their habitat over the long-term?

<https://www.youtube.com/watch?v=foGY78tvVjQ>



Photo by Gil Eckrich, Fort Hood

100 volunteers have assisted us with this study, logging over 3,530 hours



Urban expansion presents management challenges for the BCP

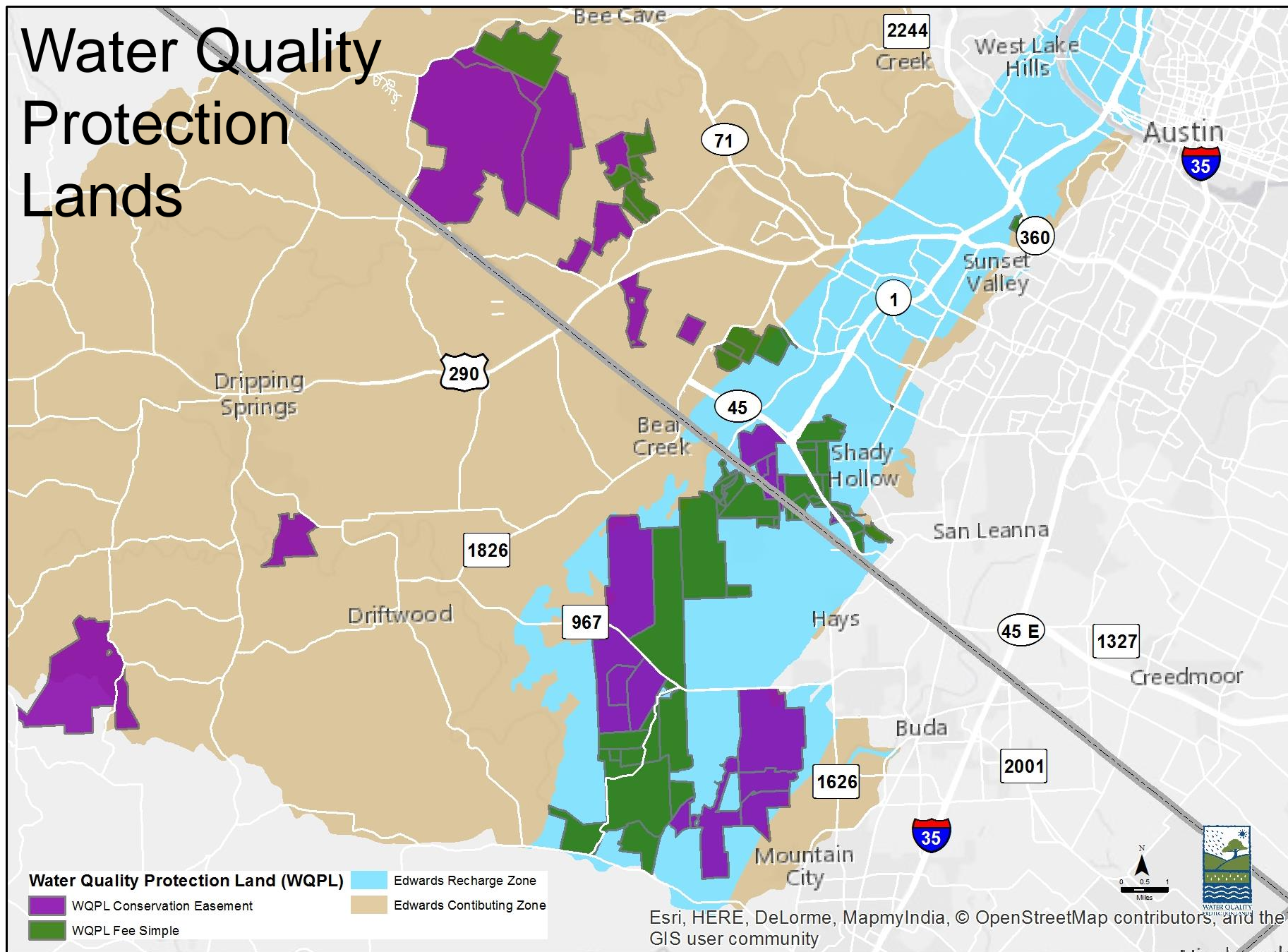
- Small patch size/small populations
- Habitat fragmentation/edge effects
- Edge-adapted predators/parasites
- Reduced hardwood recruitment (white-tailed deer, feral hogs, oak wilt)
- Invasive, non-native plants
- Wildfire
- Access management
- Public misperceptions of BCP



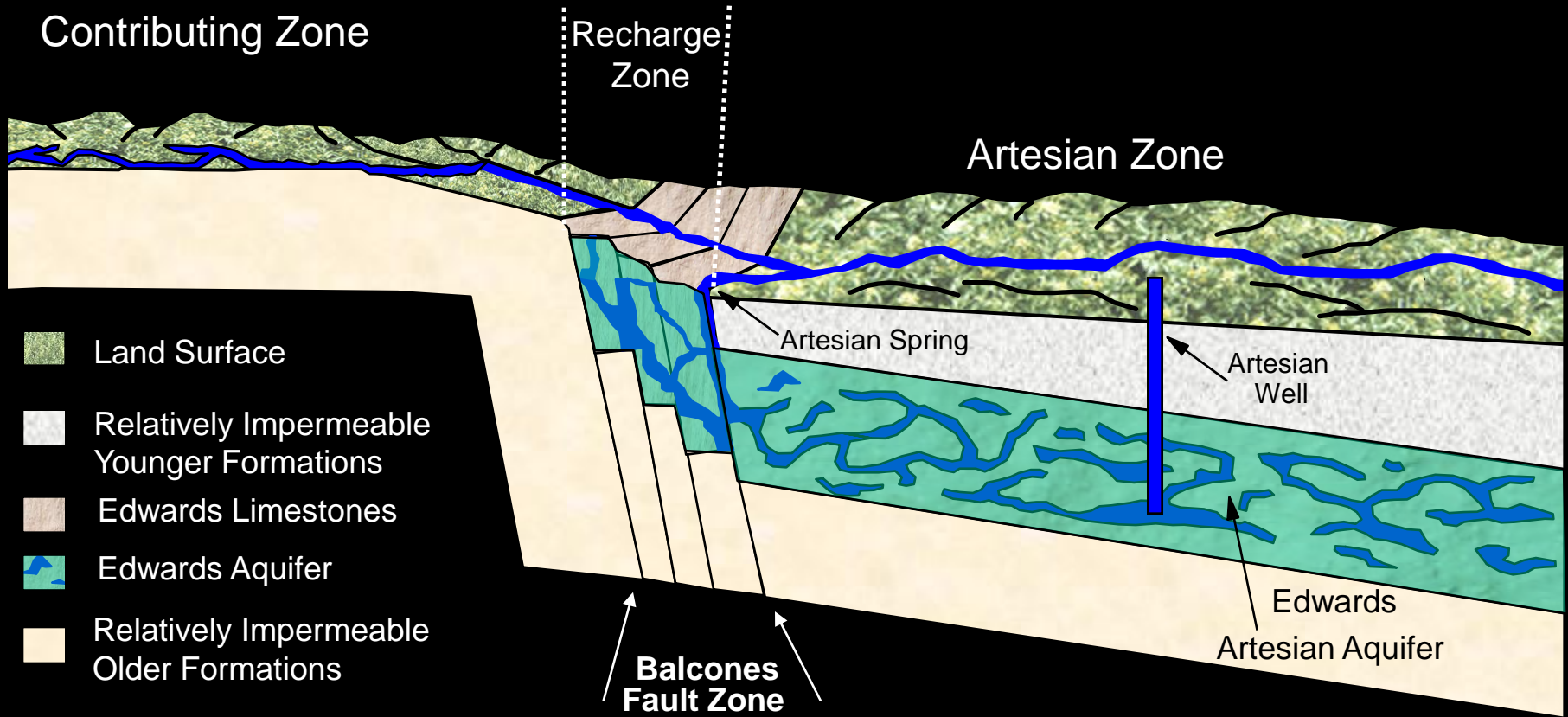
The Benefits of the Balcones Canyonlands Preserve

- Participation in the BCCP resulted in \$4.5 billion assessed value contributing to the local tax base.
- The BCCP demonstrates that economic growth/ development and habitat protection can coexist.
- Without the BCCP, economic growth and development in western Travis County was at a virtual standstill.
- The BCP protects all of our native wildlife while also providing important air quality, water quality, and open space benefits to communities in central Texas.

Water Quality Protection Lands



Typical Cross-Section of the Edwards Aquifer Region



Graphic courtesy of Gregg A. Eckhardt

Little Bear Recharge



littlebear.mp3

Summary of Groundwater Trace Injections (1996-2002)

This map illustrates the movement of Eosine dye from injection sites (A) through various groundwater basins (Cold Springs, Sunset Valley, Manchaca) to detection points in wells (green circles) and springs (blue circles). The flow paths are categorized by travel time from injection to detection:

- 1996:** 6 Days (A to B), 3 Days (A to C), < 19 Hrs (A to D), 3 Days (F to G), 3 Days (F to H), 10 Hrs (F to I)
- 1997:** 8 Days (F to J), 3 Days (F to K), 3 Days (F to L), 3 Days (F to M), 3 Days (F to N), 3 Days (F to O)
- 1998:** 3 Days (F to P), 3 Days (F to Q), 3 Days (F to R), 3 Days (F to S), 3 Days (F to T), 3 Days (F to U)
- 1999:** 7-8 Days (J to R), 1-2 Days (R to S), 22-28 Days (K to L), 14-21 Days (L to M), 22 Days (M to N), 23 Days (N to O)
- 2000:** 22 Days (M to N), 23 Days (N to O)
- 2002:** 14-16 Days (N to O), 7-8 Days (M to N)

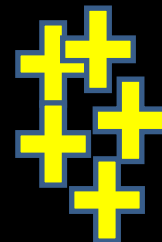
The map also shows the recharge zone (yellow shaded area), major creeks (blue lines), county boundaries (dashed lines), and major roads (orange lines). An inset photograph shows a whirlpool at Cripple Crawfish Cave (site S).

Figure 5: Whirlpool at Cripple Crawfish Cave (site S). This recharge feature is located within Onion Creek and was injected with Eosine dye on August 6, 2002. The dye arrived at Barton Springs, 17.5 miles away, in less than 3 days. Photograph taken by David Johns.

Legend:

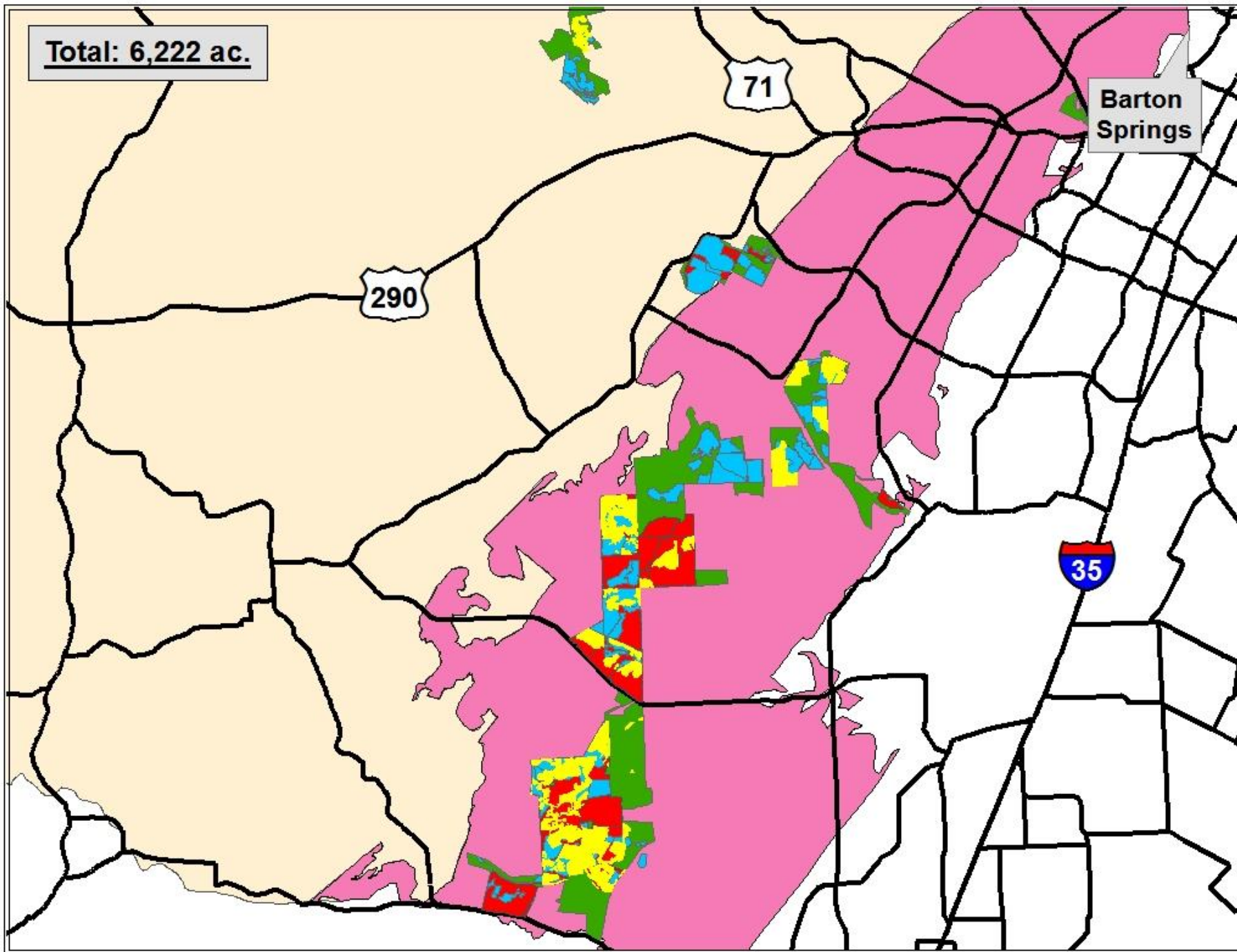
- A Injection Sites
- Tracer Detected, Wells*
- Tracer Detected, Springs*
- Estimated Flow Paths
- Inferred Flow Paths
- Recharge Zone
- Major Creeks
- County Boundary
- Major Roads

From Hunt et al. 2006



Total: 6,222 ac.

**Barton
Springs**









And after 12 years of work...



SUCCESS!



The Future

- Population growth
 - Large tracts of land disappearing
- Roads
- Electric Infrastructure
- Water
- Wastewater



Program Needs: BCP

- Infill tracts
- Configuration tracts
- Unprotected caves in permit
- Maps and studies of the cave systems



Program Needs: WQPL

- Recharge Zone: 25% protected
- Contributing Zone: 7% protected
 - Water source area: Bulk of water that recharges the aquifer originates here
 - Only 1/3 of Barton Springs Zone is in Austin's jurisdiction
 - Development rules in other jurisdictions are less restrictive and so less protective of water quality



Land Costs

WQPL Area

- Land costs in 1998 about \$4,000/ac
- Current land costs about \$20,000/ac

BCP Area

- Land costs in 1992 \$1,000/ac
- Current land costs about \$40,000/ac



Current Acquisition Funding

WQPL

- Funds from previous bonds are essentially exhausted

BCP

- Participation fees average approximately \$200,000 annually for COA



The San Antonio Model

- Edwards Aquifer Protection Program
 - Purchase land (Fee simple and Conservation Easements) to protect quality and quantity of drinking water supply in recharge and contributing zones
- Linear Creekway Parks Program
 - Purchase land and construct multi-use trails within all the City's districts



Next Steps

- Quantify land acquisition needs
- Identify future acquisition funding needs
- Environmental Commission motion to explore funding options
 - Bonds?
 - Sales Tax?
 - Hotel Tax?
- Field trip for OSES and others

Thank you!!!

Questions???

